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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/784,262	02/24/2004	Hidehiko Kanda	00862.023478	1229
5514	7590	04/12/2006	EXAMINER	
FITZPATRICK CELLA HARPER & SCINTO			NGUYEN, LAMSON D	
30 ROCKEFELLER PLAZA			ART UNIT	
NEW YORK, NY 10112			PAPER NUMBER	
			2861	

DATE MAILED: 04/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/784,262

Applicant(s)

KANDA ET AL.

Examiner

Lamson D. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 5-8 is/are rejected.
- 7) ☒ Claim(s) 3,4 and 9-14 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 February 2004 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 06/29/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2, 5-6, and 8 are rejected under 35 U.S.C. 102(a)/(e) as being anticipated by Teshigawara et al. (US2002/0105557).

Teshigawara et al teach a printing method comprising:

Claim 1:

- a selection step of selecting one printing operation mode from a first printing operation mode in which one dot layout pattern is assigned to a plurality of pixels at a same gradation level and printing is done on the basis of the assigned dot layout pattern and a second printing operation mode in which plural types of dot layout patterns are assigned to a plurality of pixels at a same gradation level and printing is done on the basis of the assigned dot layout patterns (figures 4a-e teach different dot patterns and figures 5a-d teach different dot patterns where in each pattern of figures 5a-c has a

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plurality of different dot layout, meaning different arrangements of small dots and large dots)

- a printing step of executing the printing operation mode selected in said selection step (figures 4-5 represent dot patterns to be printed)

Claim 2:

- a determination step of determining a dot layout pattern to be assigned to each pixel in accordance with at least one information out of information on a size of a printing medium and information on a size of image data (figures 4a-e teach different dot patterns and figures 5a-d teach different dot patterns where in each pattern of figures 5a-c has a plurality of different dot layout, meaning different arrangements of small dots and large dots; it is inherent that the different levels of bit signal in figures 4-5 correspond to the size of image data, for example the data amount of level 2 is greater than the data amount of level 1, level 3 greater than level 2, and 1, and so on....)
- a printing step of printing each pixel on the basis of the determined dot layout pattern, wherein said determination step determines whether to assign one dot layout pattern or plural types of dot layout patterns to a plurality of pixels at a predetermined level in which a predetermined number of dots are printed in accordance with said at least one information (figures 4-5 represent dot patterns to be printed, which include one-dot pattern in figure 4b, or plural types of dot layout patterns in figures 4b-e, 5a-d)

Claims 5, 6:

- first printing means for executing a first printing operation mode in which one-dot layout pattern is assigned to a plurality of pixels at a same gradation level and printing is done on the basis of the assigned dot layout pattern (figure 4b teaches one-dot patterns from which a pixel can be printed)
- second printing means for executing a second printing operation mode in which plural types of dot layout patterns are assigned to a plurality of pixels at the same gradation level and printing is done on the basis of the assigned dot layout patterns (figures 4-c, 5a-d teach a plurality of plural dot patterns from which a pixel can be printed)

Claim 8:

- determination means for determining a dot layout pattern to be assigned to each pixel in accordance with at least one information out of information on a size of the printing medium and information on a size of image data (figures 4a-e teach different dot patterns and figures 5a-d teach different dot patterns where in each pattern of figures 5a-c has a plurality of different dot layout, meaning different arrangements of small dots and large dots; it is inherent that the different levels of bit signal in figures 4-5 correspond to the size of image data, for example the data amount of level 2 is greater than the data amount of level 1, level 3 greater than level 2, and 1, and so on....)

- printing means for printing each pixel on the basis of the dot layout pattern determined by said determination means, wherein said determination means determines, in accordance with said at least one information, whether to assign one dot layout pattern or plural types of dot layout patterns to a plurality of pixels at a predetermined level in which a predetermined number of dots are printed (figures 4-5 represent dot patterns to be printed, which include one-dot pattern in figure 4b, or plural types of dot layout patterns in figures 4b-e, 5a-d, depending on what level is desired)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Teshigawara in view of Hotomi et al. (6,682,170).

Teshigawara teaches a printing apparatus comprising:

- a first printing means for executing a first printing operation mode in which a dot layout pattern for printing dots at the same position within a pixel is assigned to a pixel corresponding to a predetermined gradation level out of a

plurality of gradation levels and printing is done on the basis of the assigned dot layout pattern (figures 4-5)

- a second printing means for executing a second printing operation mode in which plural types of dot layout patterns are assigned to a pixel corresponding to the predetermined gradation level and printing is done on the basis of the assigned dot patterns (figures 4-5)

However, Teshigawara does not teach the second operation mode including a dot layout pattern.

It is well-known in the art to have a printing mode that includes a plural types of dot patterns including a dot pattern, as taught by Hotomi (figure 32 teaches pattern that includes patterns of 2 big hatched dots, 1 big black dot and one small hatched dot).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Teshigawara to incorporate the teaching of plural types of patterns as taught by Hotomi for the purpose of achieving a certain gradation level.

Allowable Subject Matter

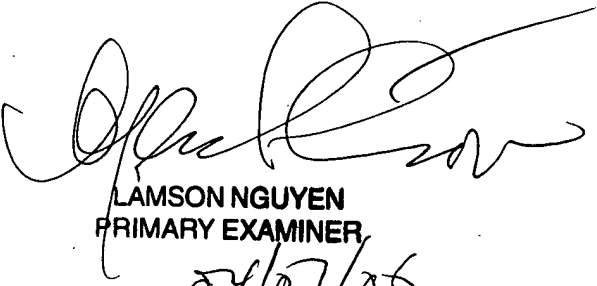
Claims 3-4 and 9-14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lamson D. Nguyen whose telephone number is 571-272-2259. The examiner can normally be reached on 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Talbott can be reached on 571-272-1934. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



LAMSON NGUYEN
PRIMARY EXAMINER
04/07/06